FACT SHEET

0044969

Tri-Party Agreement

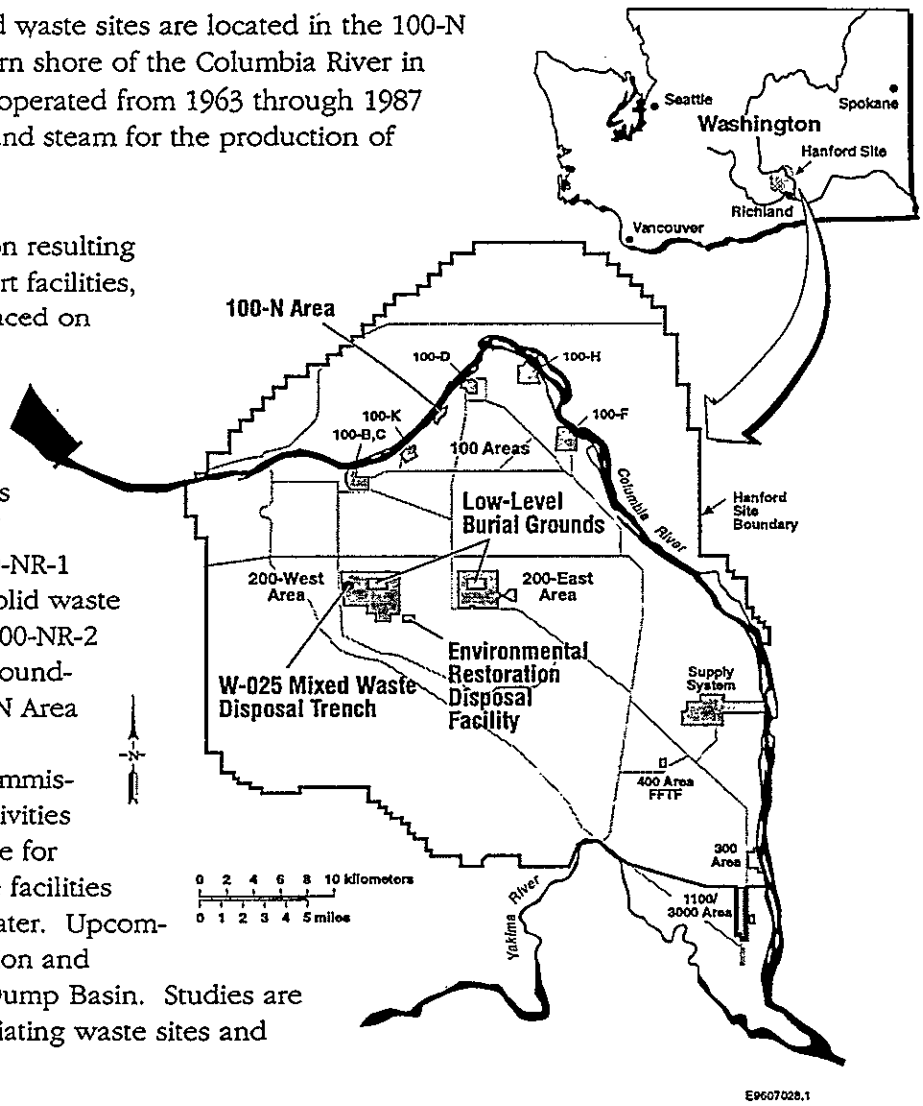
Engineering Evaluation/Cost Analysis for 100-N Area Waste

The U.S. Department of Energy and the Washington State Department of Ecology want your comments on a proposed removal action to dispose of waste generated during pre-cleanup activities of the 100-N Area. You will be commenting on an engineering evaluation/cost analysis (EE/CA) to assist in selecting the preferred removal action. The EE/CA was conducted in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). A 30-day public comment period on the EE/CA begins on August 23 and ends September 21, 1996.

BACKGROUND

The N Reactor and associated facilities and waste sites are located in the 100-N Area of the Hanford site, along the southern shore of the Columbia River in southeastern Washington. The N Reactor operated from 1963 through 1987 producing both special nuclear materials and steam for the production of electric power.

Due to soil and groundwater contamination resulting from past operation of reactors and support facilities, the 100 Areas of the Hanford Site were placed on the U.S. Environmental Protection Agency's National Priority List in November 1989. To organize cleanup efforts, waste sites and areas of contamination were subdivided into operable units based on geography and type. The 100-N Area contains two operable units: the 100-NR-1 Operable Unit consists of the liquid and solid waste disposal sites in the 100-N Area, and the 100-NR-2 Operable Unit consists of contaminated groundwater under the 100-N Area. In 1994, the N Area Pilot Project was developed to coordinate cleanup of these operable units with decommissioning of facilities in the 100-N Area. Activities that have been conducted so far to prepare for final cleanup include deactivation of some facilities and investigation of the soil and groundwater. Upcoming activities include completing deactivation and removing sediment from the Emergency Dump Basin. Studies are underway to determine options for remediating waste sites and decommissioning buildings.



▲ U.S. Department of Energy ▲ U.S. Environmental Protection Agency ▲ Washington State Department of Ecology

Three kinds of waste have been or will soon be generated during pre-cleanup activities and require a disposal decision. They are:

1. Emergency Dump Basin waste - approximately 116 cubic meters of sediment and debris that are being removed from the basin. The sediment consists mostly of sand that blew in to the open basin. The debris consists of basin hardware and miscellaneous items such as gloves. The sediment and debris are contaminated with small quantities of radionuclides such as cobalt-60, cesium-137, and strontium-90 and are designated as radioactive low-level waste. The sediment will be dewatered, then it and the debris will be packaged into low-level waste containers.

2. Deactivation waste - about 470 cubic meters of contaminated material such as equipment, hardware, and miscellaneous items (e.g., tools, loose wood, paper, plastic and rubber) that has been or will be removed from facilities and that cannot be decontaminated, reused, or recycled. The contamination is mostly surface contamination and consists primarily of radionuclides such as cobalt-60, cesium-137, and strontium-90. There are also some chemical contaminants such as lead. Deactivation waste might also include 2 cubic meters of sediment from the N Basin. The deactivation waste is mostly designated as radioactive low-level waste or mixed waste and is either wrapped in plastic or placed in containers.

3. Investigation-derived waste - about 47 cubic meters of contaminated soil and miscellaneous debris (such as tools and gloves) that was generated during environmental investigations. Contaminants include radionuclides such as cobalt-60, cesium-137, and strontium-90 and heavy metals. This waste is currently stored in drums that are located in the 100-N Area.

These wastes will be stored in the 100-N Area until a final removal action is selected. The waste containers and storage areas will be inspected and maintained, which minimizes the potential for release to the environment in the near-term. Because public access is restricted, there is relatively low risk to the public in the near-term. However, the inspections and maintenance result in potential exposure to personnel. In addition, continued storage increases the potential for a release in the long-term. To reduce the potential exposure to personnel and the threat of a release, a removal action to identify a long-term disposal option of the waste is appropriate.

The objectives of the removal action are: reduce the threat of release of hazardous substances contained in the wastes, protect workers from hazards posed by the waste, and minimize costs associated with waste disposal. The removal action scope is limited only to disposal of 100-N Area wastes generated during preparation for remedial action. Waste volumes consist of about 623 cubic meters of low-level waste and 10 cubic meters of mixed waste. Material generated during deactivation will be decontaminated to the extent practicable to minimize waste volumes.

REMOVAL ACTION ALTERNATIVES

The following three alternatives for disposal were considered in selecting the preferred alternative:

1. No Action: consists of storing the waste in the 100-N Area indefinitely. Waste containers and storage areas will be inspected routinely and maintenance will be performed as necessary to minimize the potential for a release. The total cost of this alternative is $190,000 for additional packaging, and $60,000 annually for periodic inspections and maintenance.

2. Disposal at the Environmental Restoration Disposal Facility (ERDF): includes treating the waste as necessary (e.g., by dewatering or solidification) to meet the waste acceptance criteria then disposing of the waste at the ERDF. The ERDF is a double-lined landfill with a leachate collection system located in the 200 Area that has been authorized under CERCLA to accept Hanford cleanup wastes. The types of contaminated materials described in the EE/CA are similar to other Hanford wastes going into the ERDF and will not impact the operations or require an expansion of the ERDF. The unit cost is $78/cubic meter including transportation costs to the ERDF, and the total cost is $50,000.

3. Disposal at Low-Level Burial Grounds/Mixed Waste Disposal Trench/offsite facilities: includes disposing of low level waste at the low level burial ground in the 200 Area (unlined trenches without liners or leachate collection systems) of the Hanford Site, disposing of mixed waste at the Hanford Mixed Waste Disposal Trench (a RCRA-authorized landfill in the 200 Area with a double liner and leachate collection system), and transporting dangerous waste to an offsite facility for treatment and/or disposal. The unit cost is $540/cubic meter for disposal at the low level burial ground, $1,500/cubic meter for disposal of mixed waste, and $10/cubic meter for transportation. The total cost for this alternative is $400,000.

The EE/CA analyzes the performance of each alternative using the following Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) criteria:

- Overall protection of human health and the environment
- Compliance with applicable relevant and appropriate requirements (ARARs)
- Long-term effectiveness and performance
- Reduction of toxicity, mobility, and volume
- Short-term effectiveness
- Implementability
- Cost
- State acceptance
- Community acceptance

PREFERRED ALTERNATIVE

Based on the CERCLA criteria evaluation, the recommended alternative for the 100-N Area wastes is to dispose of the wastes at the ERDF. This alternative removes the potential for a release of hazardous substances that could adversely impact human health and the environment, is protective of workers, minimizes disposal costs, and requires no expansion of ERDF. It is consistent with the ERDF Record of Decision and Explanation of Significant Difference.

How Can You Be Involved?

You may submit written comments during the 30-day comment period beginning *August 23* to the addressee listed below. All public comments will be considered in making the final decision.

Glenn Richardson
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P.O. Box 550 (HO-12)
Richland, Washington 99352
(509)373-9629

Copies of the Engineering Evaluation/Cost Analysis for 100-N Area Waste (BHI-00785) are available for review at the Hanford Public Information Repositories listed or by calling the Hanford Cleanup toll-free hotline 1-800-321-2008

LOCATION OF HANFORD PUBLIC INFORMATION REPOSITORIES

PORTLAND
Portland State University
Branford Price Millar Library
Science and Engineering Floor
934 SW Harrison P.O. Box 1151
(503) 725-3690
Attn: Michael Bowman or
Susan Thomas

RICHLAND
U.S. Department of Energy
Public Reading Room
Washington State University,
Tri-Cities
100 Sprout Rd., Room 130 West
(509) 376-8583
Attn: Terri Traub

SEATTLE
University of Washington
Suzzallo Library
Government Publications
(206) 543-4664
Attn: Eleanor Chase

SPOKANE
Gonzaga University
Foley Center East 502 Boone
(509) 328-4220, ext. 3844
Attn: Tim Fuhrman

If you have special accommodation needs or require this material in an alternative format, please contact Michelle Davis, (360) 407-7126 (voice), (360) 407-6206 (TDD). or e-mail mdav461@ecy.wa.gov.

Tri-Party Agreement